

Attorney Docket No. 24061.37
Customer No. 42717

REMARKS

Claims 4, 7-8 and 19 have been amended. Claims 2-13 and 19-25 are present in the application. In view of the foregoing amendments, and the remarks that follow, Applicants respectfully request reconsideration.

Second Paragraph of 35 U.S.C. §112

Claims 7 and 8 were rejected under the second paragraph of 35 U.S.C. 112 as being indefinite. The foregoing amendments to Claims 7 and 8 are intended to cure each ground of rejection. These amendments to Claims 7 and 8 are implemented for the purpose of improving the form of these claims, and do not change the intended scope of these claims. It is believed that Claims 7-8 are now in proper form, and notice to that effect is respectfully requested.

Claims 2-13 and 19-25 were also rejected under the second paragraph of 35 U.S.C. 112 as being indefinite. This ground of rejection is respectfully traversed, for the following reasons. In the paragraph that bridges pages 2-3 of the Office Action, the Examiner asserts that:

In each of the independent claims, [the word] "via" is unclear. Applicant quotes two definitions of this term in the Remarks of 22 June 2005. The first of these definitions states that a via is "to provide vertical connection between stacked up interconnect metal lines." These claims do not set forth any stacked up interconnect metal lines. Rather, the claim language seems to be using the term "via" specifically to describe a vertical connection between a capacitor electrode and a single interconnect metal line. See, for example, the last three lines of claim 4. So if one is to adopt the first of the two definitions quoted in the Remarks (which the Remarks argue at length should be done), then the pending claims are not clear because the usage of the term "via" in these claims does not comply with the definition.

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Applicants respectfully disagree, because this paragraph in the Office Action takes Applicants' prior remarks out of context. More specifically, in regard to Applicants' claims, the specification of the present application uses the term "via" in association with structure that is illustrated in the drawings and that is recited in Applicants' independent claims. In light of the specification and drawings, there is nothing unclear about the use of the word "via" in Applicants' claims. With respect to the discussion of "via" in Applicants' prior remarks, the remarks were not discussing the present application or Applicants' claims. Rather, the remarks were discussing Hoshi U.S. Patent No. 5,903,023, and in particular were pointing out that certain structure in Hoshi does not amount to a "via" as that term is used in the present application, and also does not amount to a "via" according to two different industry definitions of "via". Contrary to the assertions in the Office Action, Applicants never argued that either of the two industry definitions should replace and supersede the manner in which "via" is used in the present application as originally filed. (In fact, attempting to make such a change at this point might arguably constitute "new matter"). Instead, what Applicants' argued is that Hoshi's structure does not meet any accepted definition of the word "via" (and that fact remains true even now). No person skilled in the art would even remotely consider Hoshi's structure to be a "via". Accordingly, considering the present application as filed, Claims 2-13 and 19-25 are believed to be entirely definite under §112, and notice to that effect is respectfully requested.

Independent Claim 4

Claim 4 stands rejected under 35 U.S.C. §103 as obvious in view of Hoshi U.S. Patent No. 5,903,023. However, Applicant respectfully submits that Claim 4 is patentably distinct from Hoshi. In this regard, the PTO recognizes in MPEP § 2142 that:

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness...

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It is respectfully submitted that, in the present case, Hoshi does not support a *prima facie* case of obviousness with respect to Claim 4. In this regard, the provisions of MPEP §2142 specify with respect to §103 that:

To establish a *prima facie* case of obviousness... the prior art reference (or references when combined) must teach or suggest all the claim limitations. (Emphasis added)

Thus, when evaluating a claim for obviousness, the reference must teach or suggest all limitations of the claim. Claim 4 includes a recitation of:

first and second interconnects located vertically higher than the third electrode;
a first via extending upwardly from the first electrode to the first interconnect;
a second via extending upwardly from the second electrode to the second interconnect; and
a third via extending upwardly from the third electrode to the first interconnect.

The rejection of Claim 4 is based on Figure 1C of Hoshi, where the Examiner asserts that Hoshi's element 1a (the lowest electrode) corresponds to the claimed "first electrode", that Hoshi's element 2a (the middle electrode) corresponds to the claimed "second electrode", that Hoshi's upper electrode (with no reference numeral) corresponds to the claimed "third electrode", and that Hoshi's elements 9a and 9b respectively correspond to the claimed "first and second interconnects". However, it is respectfully submitted that the structural configuration recited in the above-quoted limitations from Claim 4 is different from the Hoshi device, as follows.

First, the quoted excerpt from Claim 4 includes a recitation of "first and second interconnects located vertically higher than the third electrode". However, even assuming that the

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elements 9a and 9b in Hoshi could be considered to be interconnects, they are not vertically higher than the third (uppermost) electrode in Hoshi.

Second, Claim 4 includes a recitation of "a second via extending upwardly from the second electrode to the second interconnect". But even assuming that the element 9b in Hoshi can be considered to be an interconnect, there is no via in Hoshi that extends upwardly from the second electrode 2a to any other part, much less a via that extends upwardly from the second electrode 2a to the element 9b.

Third, Claim 4 includes a recitation of "a third via extending upwardly from the third electrode to the first interconnect". But even assuming that the element 9a in Hoshi can be considered to be an interconnect, there is no via in Hoshi that extends upwardly from the third (uppermost) electrode to any other part, much less a via that extends upwardly from the third electrode to the element 9a.

Therefore, due to these various structural differences between Hoshi and the subject matter of Claim 4, it is respectfully submitted that Hoshi does not disclose all limitations of Claim 4, and that the requirement of MPEP §2142 is therefore not met. Accordingly, it is respectfully submitted that the Examiner's burden of factually supporting a prima facie case of obviousness has not been met, and that the rejection under 35 U.S.C. §103 should be withdrawn. Claim 4 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Independent Claim 19

Claim 19 stands rejected under 35 U.S.C. §103 as obvious in view of Hoshi U.S. Patent No. 5,903,023. This ground of rejection is respectively traversed. As discussed above, MPEP §2142 specifies that the Examiner carries the burden of establishing a prima facie case of obviousness under §103. Applicants respectively submit that Hoshi fails to establish a prima facie case of obviousness under §103 with respect to Claim 19, as discussed below. Claim 19 includes limitations reciting:

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a first interconnect located over the dielectric layer and located vertically higher than the third electrode;
a second interconnect located over the dielectric layer and located vertically higher than the third electrode;
a first via extending upwardly from the first electrode to the first interconnect;
a second via extending upwardly from the second electrode to the second interconnect;
a third via extending upwardly from the third electrode to the first interconnect; . . .

For reasons similar to those discussed above in association with Claim 4, it is respectfully submitted that the Hoshi device differs from the structural configuration recited in the above-quoted limitations from Claim 19. Therefore, due to the structural differences between Hoshi and the subject matter of Claim 19, it is respectfully submitted that Hoshi does not disclose all limitations of Claim 19, and that the requirement of MPEP §2142 is therefore not met. Accordingly, it is respectfully submitted that the Examiner's burden of factually supporting a *prima facie case of obviousness* has not been met, and that the rejection under 35 U.S.C. §103 should be withdrawn. Claim 19 is therefore believed to be allowable, and notice to that effect is respectfully requested.

Dependent Claims

Claims 2-3 and 5-13 and Claims 20-25 respectively depend from Claim 4 and Claim 19, and are also believed to be distinct from the art of record, for example for the same reasons discussed above with respect to Claims 4 and 19.

Conclusion

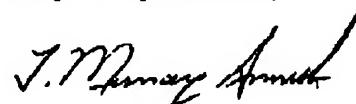
Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is therefore respectfully requested. If

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the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at 972-739-8647.

Although Applicants believe that no fees are due in association with the filing of this Amendment, the Commissioner is hereby authorized to charge any additional fee required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone LLP.

Respectfully submitted,



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Enclosures: None

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